MAY–JUNE 1981
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California GARDEN

FLORAL EVENTS

MAY 7, 14, 21, 28 and JUNE 4, 11, 18, 25	THURSDAY WORKSHOP – "Open to the Public" "Free Floral Crafts Instructions" – "Pay us a visit; you might like to join us." Casa del Prado, San Diego Floral Garden Center, Balboa Park, San Diego 10:00 a.m. to 3:00 p.m. each Thursday. For Information Call Mrs. Kulot 222-5480
JUNE 16	SAN DIEGO FLORAL ASSOCIATION ANNUAL MEETING Covered-Dish Dinner – Installation of Officers Casa del Prado, Majorca Room, Balboa Park – Tuesday, 6:30 p.m. Special Attraction: *San Diego Symphony Orchestra Strings Mandolin Group* Directed by VICTOR GUIDE Program: *Bromeliads* (Slides—Demonstration—Display) Presented by JON BLACKMER
JUNE 19 through JULY 5	*CALIFORNIA GARDEN* EXHIBIT and MAGAZINE SALE Garden Section, Southern California Exposition, Del Mar, California Daily: 10:00 a.m. to 6:00 p.m.

FLOWER SHOWS

MAY 2, 3	*SAN DIEGO EPIPHYLLUM SOCIETY "GREEN THUMB SHOW"* San Diego Wild Animal Park Sat & Sun: 9:00 a.m. to 5:00 p.m.
MAY 2, 3	*VISTA GARDEN CLUB STANDARD FLOWER SHOW "PROMISE OF SPRING"* Vista Recreation Center, 160 Recreation Dr., Vista Sat: 1:30 to 5:00 p.m. Sun: 10:00 a.m. to 4:00 p.m. Free
MAY 2, 3	*SAN DIEGO-IMPERIAL COUNTIES IRIS SOCIETY 16TH SPRING SHOW "BEAUTIES OF SPRING"* Casa del Prado, Majorca Room, Balboa Park, San Diego Sat: 12:30 to 5:30 p.m. Sun: 10:00 a.m. to 5:30 p.m. Free
MAY 3	*QUAIL BOTANICAL GARDENS "FUN & FUNDS FESTIVAL"* Quail Botanical Gardens, Ecke Family Building, 230 Quail Gardens Dr., Encinitas Sun: 10:00 a.m. to 4:00 p.m.
MAY 10	*SAN DIEGO EPIPHYLLUM SOCIETY 11TH ANNUAL SPRING SHOW "THE FOUR SEASONS"* Casa del Prado, Majorca Room, Balboa Park, San Diego Sun: 11:00 a.m. to 5:00 p.m. Free
MAY 16, 17	*SAN DIEGO GERANIUM SOCIETY 9TH ANNUAL SHOW* Casa del Prado, Majorca Room, Balboa Park, San Diego Sat: 12:00 to 5:00 p.m. Sun: 10:00 a.m. to 5:00 p.m. Free
MAY 16, 17	*SOUTH COAST BOTANICAL GARDENS FOUNDATION "FIESTA DE FLORES"* 26300 South Crenshaw, Palace Verdes Peninsula Sat & Sun: 9:00 a.m. to 4:00 p.m. Free
MAY 23, 24, 25	*SAN DIEGO EPIPHYLLUM SOCIETY 4TH ANNUAL SHOW "GREEN THUMB SHOW"* San Diego Seaworld Park Sat, Sun & Mon
MAY 30, 31	*HEARTLAND AFRICAN VIOLET SOCIETY 2ND ANNUAL SHOW* Casa del Prado, Majorca Room, Balboa Park, San Diego Sat: 12:00 to 5:00 p.m. Sun: 11:00 a.m. to 5:00 p.m. Free
MAY 30, 31	*SAN DIEGO BOTANICAL GARDEN FOUNDATION ANNUAL PLANT SALE* Casa del Prado, Patio 'A', Balboa Park, San Diego Sat & Sun: 10:00 a.m. to 5:00 p.m.

(CONTINUED ON PAGE 90)

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FRONT COVER Clematis flower drawn by Pat Maley, well known San Diego artist.

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Photo by ROBERT FRANCIS

Summer Lawn Care

by *George James*

LAWNS HAVE BEEN used by man to improve the environment of his living areas for the past several hundred years. This custom was established in Europe and came to the new world with some of the early settlers. Too often lawns are thought of only for beauty they contribute to the landscape, such as providing an attractive foreground for other plantings. Lawns are often used to prevent or control erosion caused by water, to stablilize dust, to cool by releasing water vapor into the air, to decrease noise level, to minimize glare, and to provide a playing surface that is less likely to cause injury than are surfaces of many other materials. If a lawn is to be able to do all these things it must be in good condition so that it will be not only attractive in appearance but will have enough body to accomplish the other things listed. This can only happen when the lawn is properly cared for.

Over the years many improvements have made lawn care easier or enabled us to have better lawns. There are new strains of grasses that are hardier than the old; breeding and selection continues so that still better varieties are becoming available. Attempts are being made to find grasses that will be much more drought resistant than the present kinds. The fertilizers of today are better suited to meet the needs of grasses than were the manures or simple chemicals used in the past. There are weed control materials that simplify this aspect of lawn care and the automatic sprinkler system takes the drudgery out of watering. Mowers powered by gasoline or electricity enable one to keep a lawn trimmed and neat with minimum effort.

▪ IRRIGATION

Irrigation is an important part of lawn care in the Southwest where the climate is semiarid. An

automated system that will apply water at predetermined intervals for predetermined lengths of time is available and such a system only needs to be changed from time to time to compensate for the changes in the water needs of the lawn, brought on by the seasonal changes in the weather. It is usual to water lawns once a week except when the weather is cold or wet, and enough water should be applied each time to wet the soil to a depth of 10 to 12 inches so that the grasses are encouraged to root deeply.

Clay soils, or those with a lot of clay in them, absorb water slowly and as a result of this, excess water collects on the surface and eventually starts to run off. It is best to water these soils until water starts to collect on the surface, then stop watering and wait until the surface water soaks in before starting again. Sprinklers do not distribute the water evenly throughout the pattern they cover. Some water heavily in the center and lightly towards the outside of the pattern while others reverse this. When a sprinkler system is installed the heads are spaced so that their patterns overlap and in this manner a more even distribution of water is obtained. This fact should be kept in mind when using a sprinkler on the end of a hose for this has the same kind of pattern; when the position is changed it should be placed so that the spray partially covers the area just watered, evening out the pattern. A sprinkler system usually consists of several series of heads, each controlled by a separate valve. The heads have been divided between the valves on the basis of available water; usually there are enough heads controlled by one valve to use all the water available. When more than one valve is opened at a time, or a hydrant is turned on while the sprinkler system is being operated, the amount of water is reduced and there is not enough for each head to deliver a full pattern; some spots will get less water than others and growth there will be influenced. The patterns of sprinklers can be checked for evenness of distribution by placing several containers of an equal size and shape along the radius of the sprinkler pattern. After the water has run for a little while compare the amounts of water in the containers; the containers with the most water will be those in the heaviest part of the sprinkler pattern. Tuna or similar cans make excellent containers for this purpose. Wind causes uneven distribution of water, therefore it is better to water at night or in early morning hours when there is less likely to be wind and less water will be lost by evaporation. An automated system can be set to come on at this time; the water pressure will be the greatest then so sprinklers will have the best patterns. Roots of close-by trees and shrubs which have grown into the lawn can also cause dry or weak spots in the lawn. Pruning such roots (best done at the point they enter the lawn) removes the problem for a short while but then it must be done over. As a temporary measure, such spots can be watered between regular waterings to provide enough water for the both roots and grass.

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Hard spots, due to compaction, can develop in a lawn; these shed water, and growth within them is poor and weak. Growth here can be stimulated by aerating until it is equal to that of the surrounding area. Aerating is done by removing 1-inch plugs of soil 4 to 6 inches apart and at least 6 inches deep. These are left open and serve to carry both water and air to the lower levels of the soil so that roots can grow. There are tools available to do this job, however, if the soil is very hard the tool will only penetrate an inch or so. If this is the case make the holes, then water, and soak well; after the water has softened the soil further down, deepen the holes with the tool. It may take several attempts before the 6-inch deep hole is made, but it can be done. There are available soil penetrants—materials which enable water to penetrate better—and their use while the holes are being dug would be helpful. Otherwise, one would need to add penetrants continually to maintain the desired effect.

▪ MOWING

Lawns are mowed to keep them even and attractive looking. Lawns may be composed of several kinds of grass, each of which will have a different rate of growth so a lawn soon becomes uneven. The lawns of southern California may be of cool season grasses, such as bluegrass, rye, and fescue, or they may be composed of tropical grasses such as Bermuda

or zoysia. In mixed plantings, mow to the height that will favor the grass that you want to encourage. The tropical grasses can be cut to one-half to three-quarters of an inch. The cool season grasses should be mowed so they are no shorter than one and a half to two inches in height when cut. Continual cutting of the cool season grasses to less than the one and a half inch height will weaken them and this technique can be used to discourage clump grasses that are so noticeable in low cut tropical grass plantings.

Lawns should be mowed frequently enough so that not over one-half of the growth is removed. A lawn that is to be cut to a two-inch height should be mowed before it reaches four inches. Also when grasses get tall the taller plants have a tendency to shade out the smaller and weaker. Tall plants are likely to bend down in front of the mower and not be cut; they will then smother the weaker plants.

▪ FERTILIZATION

A regular program of fertilization is necessary if a lawn is to have an attractive color and be strong and hardy. As the level of fertility in the soil decreases the grass becomes more yellow and at the time of mowing there will be fewer clippings. A commercial fertilizer that has been formulated to meet the special needs of the lawn is the most effective material to use. It will meet all the nutritional needs and will not introduce any weeds or other problems as manure often does. The lawn should be mowed before the fertilizer is applied; the soil should be moist, and the foliage of the grass dry. The fertilizer should be applied with a mechanical spreader so that it is evenly distributed, which will prevent a spotty appearance. Follow directions on the fertilizer container for the amount to use, usually given in pounds per square feet, which indicates one should know the number of square feet involved. Too much fertilizer will over-stimulate and there will be excessive growth and a very dark green color, while too little will not give the benefits sought. After the fertilizer has been spread, it should be watered in and washed off the foliage. A nozzle with a strong stream of water is recommended as being more effective for this purpose than the fine, mist-like spray from the usual lawn sprinkler. Once the fertilizer is washed off then watering can be left to the regular sprinkler system.

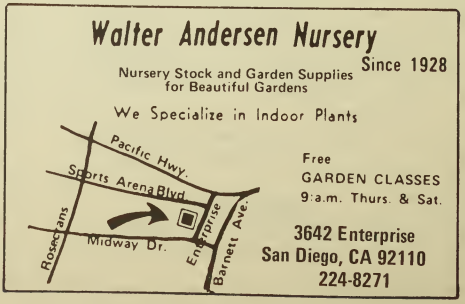
There are lawn fertilizers that include weed control materials. One material is a preemergent control that kills seeds as they sprout and this is the most effective for crabgrass. The preemergent material will also kill grass seeds as they sprout so should not be used until after they have sprouted. Another product has a material that will kill broad-leaved weeds, such as dandelion, without damage to the grasses. This product will kill dichondra in a lawn and should not be allowed to touch shrubs and other plants around the edges of the lawn. Both of these materials will have to be used several times to eradicate the pests mentioned because these have many seeds in the ground, some of which will not sprout until later when the control material has lost its effectiveness.

▪ OTHER PROBLEMS

Lawns of cool season grasses are more likely to have insect or disease pests than are the tropical grasses. These manifest themselves by dead spots that usually increase in size, or by discolored foliage. When symptoms of any kind appear, the cause should be determined and steps taken to correct the problem before the lawn is lost.

There may be spots in a lawn where only one kind of grass grows and as a result the texture or color is different. This may be caused by a difference in the soil, the amount of water, or the sun/shade situation. While the difference in color or texture makes the spot noticeable, one should remember the kind of grass best suited for the situation there has taken over and likely any attempts to change this will result in a spot without any grass in it. The only remedy for this is to determine why this grass grows there; then change the situation so that a greater variety of grasses will thrive and thus duplicate in texture and appearance the balance of the lawn.

A lawn may have humps and hollows in it, the result of poor grading. The humps shed water so growth there is not as strong as in the hollows.



Aerating may be one answer—making holes in the humps so water and air can penetrate. Or, one can remove the turf in pieces suitable for replanting and set them aside, then create a level subgrade and replant the turf. Most grass varieties need sun at least half the time to thrive and if there is less light the growth is weak and thin. In some cases trees and bushes that shade the lawn can be thinned to permit more light to reach the grass. If the shade is caused by a structure there is little that can be done. St. Augustine grass, which is coarse and invasive, is the grass most likely to grow in deep shade. Another alternative is to remove the grass and make planting beds. These beds can be planted to suitable shade plants such as impatiens, clivias, begonias, ferns, and many others; ask your nurseryman for suggestions for your area.

▪ FINAL RESULT

A lawn properly cared for is a joy to all who behold it and provides that beauty and utility so desirable around one's home. □

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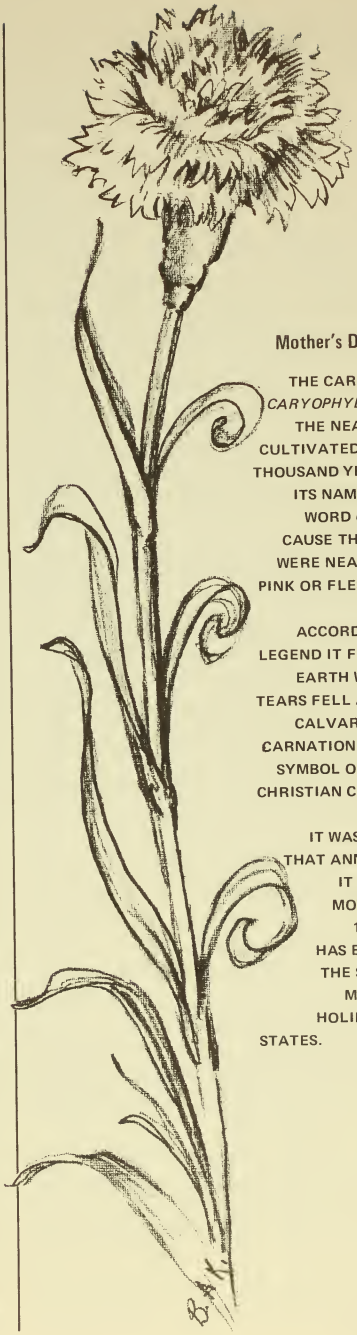

Mother's Day Flower

THE CARNATION *DIANTHUS CARYOPHYLLUS*, A NATIVE OF THE NEAR EAST, HAS BEEN CULTIVATED FOR ALMOST TWO THOUSAND YEARS. IT RECEIVED ITS NAME FROM THE LATIN WORD *CARNIS*, FLESH, BECAUSE THE EARLY FLOWERS WERE NEARLY ALWAYS PALE PINK OR FLESH COLORED.

ACCORDING TO CHRISTIAN LEGEND IT FIRST APPEARED ON EARTH WHEREVER MARY'S TEARS FELL AS SHE WALKED TO CALVARY. THUS, THE PINK CARNATION SOON BECAME THE SYMBOL OF MOTHER LOVE IN CHRISTIAN COUNTRIES.

IT WAS FOR THIS REASON THAT ANN JARVIS SELECTED IT AS THE EMBLEM OF MOTHER'S DAY. SINCE 1907 MOTHER'S DAY HAS BEEN OBSERVED ON THE SECOND SUNDAYOF MAY AS AN OFFICIAL HOLIDAY IN THE UNITED STATES.

CULTIVAR, OH CULTIVAR

How I Wonder What You Are

by Helen Chamlee

'Oregold', a rose cultivar Photo by *AARS*

THE WORD ITSELF may be unfamiliar but cultivars are not. Every apple you know by name is a cultivar, every rose you grow, the lettuce in your salad bowl, the wheat, rice, barley, and corn that stay the world's hunger. By its very structure the word cultivar tells us that it pertains to a special group of plants—those developed in and for cultivation.

Obviously we need a system of naming the cultivated plants as well as the wild ones, if for no other reason than to facilitate communication. Anyone who has ever tried to identify a plant over the telephone will know what I mean.

The Botanical Code (International Code of Botanical Nomenclature) covers all natural species, but it does not take care of 'Kentucky Wonder' bean, 'Queen Elizabeth' rose and all the other kinds of plants we might call inventions of man. Clearly, a supplement to that code was needed, and a simple name for this category of plants.

To fill this need, the Cultivated Code (International Code of Nomenclature for Cultivated Plants) was published in 1959. It is a convenient and internationally accepted set of rules governing the naming of cultivated plants, both agricultural crop plants and ornamentals.

Just cultivating a plant does not make it automatically a cultivar. It has to be formally named and the name registered with an official plant registration group. You cannot give a cultivar name to a natural species, subspecies, variety or form; it has to be a plant that has been "worked on," one way or another. The work, that of the plant breeder, the hybridizer, or the man who buds the roses or grafts the fruit trees, is to assure uniformity of the product.

Take the apple 'Golden Delicious' as an example. All 'Golden Delicious' trees are descended from the single branch of another kind of apple tree (itself a cultivar) which bore this distinctive yellow fruit. The sport or mutation was a natural occurence but it did not naturally proliferate into whole trees or orchards of 'Golden Delicious'; it had to be propagated by people. It still was not a cultivar until it was named and the name formally registered. A cultivar name is always written with the initial letter capitalized. The name may be indicated by enclosing with single quotation marks, as *Rosa* 'Mr. Lincoln' or by placing the abbreviation cv. before the name as in *Pinus strobus* cv. Nana.

So let's take the term cultivar to our hearts and love it as we do the cultivars themselves. The word is short, it is easy to spell, it is precise in meaning, and it provides a basket in which to put a lot of plants which otherwise would have remained anonymous.

Wild Fennel: Warm Memories

by *Terry Tucker Francis*

Drawings by *ROBERT FRANCIS*

AS KIDS, WE loved to play Indians in San Diego's brushy coastal canyons, stalking through the chaparral along the riverbed where California's early natives once roamed. For food, we "Indians" relied on a tall feathery weed with brown seeds that had a snappy licorice flavor.

Little did we know how authentic our child-play was. This now abundant herb soon went wild after being introduced and in those same canyons, the Mission Indians once chewed those same tasty little seeds for their stomach-calming and mouth-sweetening properties. And the Spanish padres who founded our San Diego Mission some two centuries ago used the fragrant leaves of this abundant herb for its warm scent and mild insect-repellent properties. The herb, wild fennel, was bruised, strewn on the earthen floors, and sprinkled lightly with water. When walked upon, it released its aromatic oils, freshening the air all around.

Here in the Southwest, fennel was one of the abundant and useful canyon herbs. Most people familiar with our canyon plants know fennel by sight, if not by name. It is the towering fountain of feathery blue-green foliage topped by umbrellas of tiny yellow flowers in summer. In fall, the entire plant dries into a giant bouquet of brown, crowned with plentiful little brown seeds that rain down everywhere when those hot Indian summer breezes rattle through the brush.

You will find entire regiments of wild fennel, marching shoulder to shoulder along the railroad tracks, down the gullies, up the canyon walls, and along the roadsides, throughout San Diego County. It is a cousin to carrot and dill, hailing from the carrot family. Its Latin name is *Foeniculum vulgare*.

Historically, fennel hails from the Old World, where it was known to early Egyptians and ancient Greeks as a medicinal and culinary herb. The Egyptians, Romans, and Greeks all believed that fennel imparted strength and longevity. Romans took it on every trek, for food and medicinal use. Pliny the Elder claimed that it cured eye trouble and obesity. And William Coles, writing in 1657, sums up the widespread belief in fennel as a diet aid in this colorful quote:

> ". . . both the seeds, leaves, roots of our Garden Fennel are much used in drinks and broths for those that are grown fat, to abate their unwieldiness and cause them to grow more gaunt and lank."

Sixteenth century English cavaliers kept a small pouch of fennel seed nearby to "smell unto" during the night for sweet dreams. The tiny anise-flavored seed was known as "pearl of the aphrodisiacs," in earlier times. Combined with licorice root and water it became an elixir temptingly touted as a European "Tonic For Happy Lovers!"

American Puritans, subject to lengthy dissertations on hellfire and brimstone, quieted the inevitable Sunday tummy-rumbles and calmed squirming tiny tots, by unobtrusively slipping an occasional fennel seed into their mouths. In fact, the spicy crescent-shaped seeds were known in colonial times as "meeting seeds," because they could so often be found stashed in the pockets of those Sunday-go-to-meetin' Puritans.

Medicinal uses of fennel have been many and varied down through the ages. It was used as a poultice for tired eyes, for aching limbs, for insect stings, even for snake bite. The seeds and young greens were eaten raw, for digestive complaints, as a diuretic, to purify the blood, to soothe cramps.

A favorite use of fennel seed in our household, is the brewing of a naturally sweet, delicate amber-colored tea from the dried seeds that we harvest from the canyons every year. We simply boil a tablespoonful of seed in two cups of water for five minutes, then strain the liquid and drink it hot. The tea is a delicious digestive after a heavy meal, and it makes a surprisingly tranquilizing nightcap as well. One cup usually has even this household's resident insomniac yawning her way to a good night's sleep.

Gardeners can grow a civilized variety of wild fennel, known as Florence fennel or finocchio, in any sunny well-drained location. The Florence fennel was brought to this country in the year 1800, and grown especially for its tender bulblike base, which is braised or steamed and eaten as a vegetable.

Sow the seeds, which are commercially available, in early spring in good rich garden earth. Water only moderately, but protect the young fennel plants from scorching winds while they are at the seedling stage. As the plants grow taller, gradually heap up mulch all around the thickening bulbous base, to blanch it into crisp white delicacy. Harvest before the fennel flowers, if you are growing it, as most gardeners do, for the tender base that is steamed and served as a vegetable.

If fennel seed is what you want, for tea or for sprinkling onto breads and over pizza, there is little need to grow fennel in your garden. Simply hike into the nearest canyon, or wander a way into a field at the side of the road, and shake the dried seedheads of San Diego's abundant wild fennel into a brown paper bag.

There is something magical and satisfying about gathering the seeds of a wild herb, and knowing it is very likely that, some two hundred years ago, a barefoot Mission Indian or a brown-sandaled padre stood where you now stand, gathering up the fennel seeds of two hundred summers ago. □

Terry Tucker Francis is a native San Diegan, a nature-loving herbalist, and a contributor to several national magazines. Her husband, a photographer and artist, always illustrates her articles.

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THE EPIPHYLLUM

Orchid Cactus

"Growing epiphyllums can easily become an interesting and rewarding hobby"

by Frank Granatowski

THE EXTRAVAGANT FLOWERS of the epiphyllum or orchid cactus as it is commonly called, are admired by one and all, but the plant itself is much maligned by people who do not consider it attractive.

Almost everyone who sees a display of the spectacular blooms is seized by the urge to start a collection of his own, especially when he is advised that the plants are easily grown with minimal care. Unfortunately, minimal care is sometimes construed as neglect and therein lies the problem. Epiphyllums, potted in good mix, can be kept attractive between blooming seasons with minimal but proper care. They enjoy a face washing in the form of occasional misting to remove accumulated dust—this keeps them greener and improves their appearance.

Growing epiphyllums locally is encouraged, as it can easily become an interesting and rewarding hobby. As a starting point, if one is in or near San Diego, plan to attend the epiphyllum shows at Balboa Park, Sea World, or the Wild Animal Park during the month of May; or visit a nursery or some local gardens to acquaint yourself with the care, culture, and growth habits of these unique plants. Feel free to ask about soil preparation, grooming, feeding, or any other questions you might have. Most successful growers do not mind sharing information they have acquired over the years.

• POTTING SOIL

Epiphyllums, because of their epiphytic* nature are best grown in porous, fast-draining soil. Some commercial potting mixes are satisfactory; however, most growers tend to develop their own formulas based on individual climate and environmental needs, and past experience. Garden soils, or mixes containing peat moss, are not recommended and should be avoided.

*Growing on the surface of other plants, but not deriving nourishment from them.

An excellent potting mix consists of the following:

2 cu. ft.	Good Potting Mix
1 cu. ft.	Redwood Compost
1 cu. ft.	Oak Leaf Mold
1 gallon	Horticultural Charcoal
1 gallon	White Decorative Rock (¼- to ½-inch size)
1 gallon	Sponge Rock (Horticultural Perlite)
1 cup	Soil Sulphur
1 cup	Superphosphate
½ cup	Hoof & Horn
½ cup	Potash
1 cup	Bleach (Dissolved in 3 gal. rain water)

Thoroughly mix the dry ingredients, add the bleach solution and mix again. Store in plastic container or plastic bag for about 60 days before using. This formula will make about 36 gallons of mix. It can be used for most indoor potted plants such as ferns, bromeliads, and other epiphytic plants. The formula may seem a bit involved and complicated; however, it does contain all the nutrients needed to assure stable growth without addition of fertilizers until time to transplant.

• PLANT ENVIRONMENT AND GENERAL CARE

Epiphyllums require filtered sunlight, and do well in a lathhouse, under shade cloth, or suspended from the branches of a tree. Good air circulation and humidity are essential. Do remember these plants cannot tolerate prolonged freezing temperatures.

Soil should be moist, but not soggy. Rain is very beneficial, and even heavy winter rains will have no harmful effect on a properly maintained plant.

Keep container bases free of dead leaves and other debris, as they are a haven for pests and also prevent the necessary supply of oxygen from getting to the root system.

Keep plants groomed by removal of dead and withered branches.

Do not allow used pots to accumulate in the growing area, but clean them and store for future use. This prevents the spread of disease.

Do not acquire more plants than you can properly care for or than your garden space will allow.

Do read "Now is the Time" in each issue of this magazine.

• CUTTINGS

It is advisable to start cuttings or small plants in 4-inch pots. A nursery flat can accommodate 16 of these pots, and can be easily handled, observed, and

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maintained. It should be placed on a shelf, hopefully out of reach of slugs and snails; they can do irreparable damage to the plants in a very short time. Plants can remain in their original containers for about 12 to 18 months, or until they have acquired 4 to 6 branches. At that time, they can be transplanted to gallon pots. The following year, there should be sufficient growth to repot them in 2-gallon or 10-inch hanging containers, where they can remain indefinitely. They may have a few blooms in about two years. Thereafter, properly cared for plants will reward your efforts generously.

• PLANT COLLECTIONS

You may feel that two or three years is a long time to wait for cuttings to produce blooms. In that case, you may wish to contact a local grower or nursery and obtain a few mature plants. When they are in bloom, April through June, is the time to purchase mature plants. However, do not make your choice based on profusion of blooms alone. Check the plant to see if it is growing properly. A healthy plant will usually have new growth emanating from its areoles* or from its root system as spike risers, regardless of the season of the year. Wilted foliage or lack of new growth may be indicative of an unhealthy plant, and could cause problems in the future.

In starting a collection, choose plants with care. If too few plants are acquired, you may set them off in a corner and tend to forget about them; too many become a burden. Choose plants individually, based on need. Package deals or beginner collections may be economical, but usually do not provide for personal selection or preferences.

Good grooming and maintenance habits enhance the appearance of epiphyllum plants and can make the difference between a nondescript garden or a "Jewelled Corridor." The choice is YOURS!

*Cushion-like structure out of which can arise spines, branches, or flowers.

• BLOOMS

It is difficult to classify blooms by individual hues, due to the many color combinations, blendings and shadings. Some of the more popular hybrids, based on hardiness, good growth habits, and flower form are listed below. Most are available locally.

RED: 'Lipstick,' 'Clara Ann,' 'Sparkle,' 'Bertee,' 'Kevin,' 'Red Velvet.'

PINK: 'Padre,' 'Bridesmaid,' 'Tassel,' 'Fifi,' 'Argus,' 'Flirtation,' 'Concerto.'

WHITE: 'Farewell,' 'Marina Special,' 'Creme de Menthe,' 'Queen Ann,' 'Meda,' 'Moonlight Sonata,' 'Young Nun.'

ORANGE: 'Chrissy,' 'King Midas,' 'Cindy Shereen,' 'Jersey Beauty,' 'Tel Star,' 'Crowning Glory,' 'Moloch.'

PURPLE: 'Blacklight,' 'Space Rocket,' 'Blackout,' 'Blackamore,' 'Daisy Dean,' 'Jolly Roger,' 'Great Waltz,' 'Professor Ebert,' 'Thunder Cloud.'

MULTICOLOR: 'Showboat,' 'Drama,' 'Climax,' 'Hermosissimus,' 'Pegasus,' 'Peacockii,' 'Marseillaise.'

YELLOW: Until just a decade ago, there were only a few good yellow hybrids, the most popular being 'Reward' and 'Discovery.' However, in the past few years, by selective hybridizing, some very fine yellows have been produced—'Lemon Custard' and 'Frances C.' (by Wressy Cocke); 'Jennifer Ann' and 'Madeline' (by George French); 'Jackpot' (by Frank Granatowski).

SMALL OR MINIATURE: 'Grand Empress,' 'Queen Bee,' 'Rosetta,' 'Delicate Jewels' (cascading, free-flowering, rose-pink tones); 'Orange Bouquet,' 'Confetti' (orange), 'Firecracker' (red), 'Pete's Snowflake' and 'Snowflake STP' (white). □

Editor's Note: The *San Diego Epiphyllum Society* and the *National Epiphyllum Society* in Los Angeles are the only two known societies in the United States. Why not start one in your area?

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DON'T EAT THE DAISIES, DAFFODILS, DELPHINIUMS

by *Sharon Siegan*

EXCEPT FOR UNSUSPECTING victims in a murder mystery and those seeking hallucinogenic experiences, few people are fatally poisoned by plants. Those who do suffer toxic effects are primarily youngsters exploring the world via their mouths and indiscriminately sampling pretty berries and colorful flowers. Light in body weight, they react severely to ingesting small quantities of material that might be only mildly harmful to an adult.

But poisonous plants abound in our gardens, our homes, and, surprisingly, our pantries and refrigerators! Some plants, like the familiar attractive castor bean, can be lethal. The castor bean phytotoxin ricin is among the deadliest of all poisons—when injected it is twelve thousand times more potent than rattlesnake venom! The entire plant is toxic, with the

beautiful mottled, glossy seeds so poisonous that one to three can cause death of a child, two to eight of an adult, and even handling can result in dermatitis and bronchial disorders for some people.

Normally however, poisonous plants, despite their prevalence and perniciousness, are not a great hazard. This is because, expecting them to be inedible, we seldom serve or snack on our ornamentals. Fortunately also, those plant parts which are most noxious tend to be bitter, evil-tasting, or malodorous, all or any of which discourage swallowing. There are many exceptions, yet it is a rule-of-thumb worth heeding.

An interesting example is the bitter almond. Both the popular edible sweet almond and the bitter inedible one are members of the genus *Prunus*, and the two are almost indistinguishable visibly and botanically. In the bitter almond the kernel contains amygdalin, which in the intestine breaks down into cyanide. Other *Prunus* species are apricots, cherries, nectarines, peaches—the stone fruits. And the kernels within those stones or pits are charged with amygdalin—the active ingredient in laetrile. While all of these fruits themselves are edible, the seeds and leaves contain varying amounts of cyanogenic glycosides. Apple pips too are cyanogenetic, understandably since the apple shares membership in the rose family with *Prunus*.

Solanum is another genus with a well-earned reputation for being poisonous. Although all species contain the alkaloid solanine, there is great variation in toxicity. Thus we find one nightshade bearing the name "deadly" whereas other species are eaten as common staples. Solanine is normally concentrated in leaves, flowers, and unripe fruit; boiling detoxifies them. Consequently, cooked eggplant (a fruit) is edible. Another fruit, the tomato, is free from solanine when ripe, although the green fruit eaten raw can cause poison symptoms. Normally, tubers, such as our dietary mainstay the potato, lack the toxic

principle. However, in spoiled, bruised or green areas, solanine collects under the skin of a potato, and all potato sprouts are highly toxic.

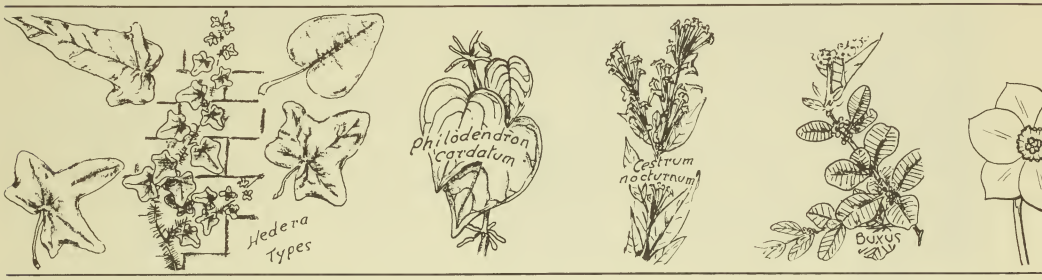
Some bulbs in the amaryllis family, which includes the alliums, amaryllis, and daffodils or narcissi, contain alkaloids that may be poisonous. Even the common onion, *Allium cepa*, when consumed in large quantities for longer than a week, will cause

anemia. Mistaking the spring flower bulbs for onions will cause a more violent, rapid reaction—nausea, vomiting, and diarrhea.

The lily family, at home in the vegetable and flower garden, has its share of poisonous members. Perhaps the best known is autumn crocus, source of colchicine, an alkaloid found in the entire plant and used in the treatment of gout. Gloriosa lilies also contain colchicine and ingestion of the tubers can be fatal. All parts of the lily-of-the-valley contain a cardiac glycoside, but poisoning effects are less severe than that of the gloriosa lily. Then there is the delectable vegetable, *Asparagus officinalis*, whose berries are toxic, and whose young green shoots, tender enough to be eaten raw in a salad, are believed to cause dermatitis.

snow-on-the-mountain, *E. marginata*, is so caustic it has been used to brand cattle. In addition, ingestion of almost any part of these euphorbias will induce severe gastric distress.

Indoor plants are likely to be equally dangerous. Dieffenbachia in the arum family is called dumbcane to identify the well-known malady resulting from chewing or eating any part of the plant. Needle-like calcium oxalate crystals (and perhaps the enzyme asparagine), cause a swelling of mouth, tongue, and throat that prevents speech. The same poisonous principle occurs in many other familiar members of the arum family. Caladium, elephant's ear, spathiphyllum, and the many varieties of philodendron, including monstera and related species such as pothos, all are grown as house ornamentals and all



Another group of plants well documented for toxicity is the spurge family. The name itself comes from the same root as purge, testifying to an early use as a purgative. Already mentioned is one of its prominent members, the castor bean plant. Jatrophas (coral beans) and crotons are other attractive ornamentals whose oils, pressed from the poisonous seeds, are powerful cathartics.

Another characteristic of many members of the spurge family is the sticky, milky sap exuded from cut or broken surfaces. This is usually caustic and is an irritant to skin and eyes. *Euphorbia*, the genus which comprises 40 percent of spurge species, is a prime offender, with care (and gloves) advised in handling. Temporary blindness has occurred, and tribes of Socotra have used euphorbia sap to permanently remove eyebrows. Among the common euphorbias the sap of poinsettia, *E. pulcherrima*; pencil tree, *E. tirucallii*; crown of thorns, *E. milii*, and candelabra "cactus", *E. lactea*, will cause contact dermatitis in susceptible individuals, while that from

are capable of producing voice paralysis. So too, the flowering species—anthurium, wild calla, and calla lily, wherever grown, will make the eater speechless when ingested.

Other plant families that seem to harbor more than their fair share of poisonous species are the dogbane family, which includes the popular oleander, so toxic that ingestion of a single leaf can be fatal to an adult, and fumes from branches used as fuel, or meat skewered on its wood will be poisonous; the sunflower family, which includes the daisy-like flowers senecio and tansy; the ranunculus family, with buttercup, clematis, and delphinium; the pea family, with sweet pea, lupine, and black locust, all more or less toxic, although the hallucinogenic mescal bean is most notorious and the rosary bean most lethal; and the heath family, whose prominent and poisonous members are rhododendrons and azaleas.

Although the potential for poisoning exists in many plants, the toxicity will vary enormously depending on the particular species, the plant's stage

of growth, season, habitat, and the part of the plant involved. Further, reaction will be affected not only by the quantity of material consumed, but also by the age, size, and general health of the potential victim. This is particularly true in the case of susceptibility to contact dermatitis. With all this in mind, it is helpful to know which plants should be removed from contact with very young children or otherwise treated with caution. □

POISON CONTROL CENTER NUMBERS

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Los Angeles: (213) 484-5151
San Francisco Bay Area: (toll-free) 800-792-0720

Photo by *ROBERT FRANCIS*

Lantana, half-hardy shrubs, trailing and bushy perpetually flowering, has dense little flower heads in orange and red, yellow, purple, and white. Only the berries are poisonous.

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POISONOUS PLANTS

The following list is not all-inclusive and is limited to southern California plants which, when ingested, have been known to cause a serious or fatal poisoning.

Unless otherwise noted, the entire plant is believed poisonous.

An asterisk denotes contact dermatitis potential.

Both common and botanical names are given, except where they are the same.

Autumn Crocus (*Colchicum autumnale*)
Azaleas (*Rhododendron* species)
Baneberry (*Actaea rubra*)
Belladonna (*Atropa belladonna*)
Bird of Paradise (*Strelitzia reginae*)—pods and seeds
Bird of Paradise bush (*Poinciana gilliesii*)—pods and seeds
Black Locust (*Robinia psuedoacacia*)—seeds,leaves,inner bark
Bleeding Heart (*Dicentra formosa*)
Boxwood (*Buxus microphylla*)—leaves and twigs*
Bushman's Poison (*Acokanthera venenata*)
Caladiums
Carolina Jessamine (*Gelsemium sempervirens*)
Castor Bean (*Ricinus communis*)*
Chinaberry Tree (*Melia azedarach*)
Coral Plant (*Jatropha multifida*)
Crown of Thorns (*Euphorbia milii*)*
Daffodil (*Narcissus pseudonarcissus*)—bulbs
Daphne
Delphinium
Death Camas (*Zigadenus venenosus*)
Dumbcanes (*Dieffenbachia*)
Elderberry (*Sambucus mexicana*)—unripe berries,leaves,wood
Elephant's Ear (*Colocasia antiquorum*)
English Laurel (*Prunus laurocerasus*
False Hellebore (*Veratrum californicum*)*
Four-O-Clock (*Mirabilis jalapa*)—seeds
Foxglove (*Digitalis purpurea*)
Holly (*Ilex* spp.)—berries

Horsechestnuts (*Aesculus* spp.)—seeds, flowers, leaves
Hyacinths—bulbs
Hydrangea
Ivy (*Hedera* spp.)—berries, leaves*
Jerusalem Cherry (*Solanum pseudocapsicum*)
Lantana—berries *
Glory Lily (*Gloriosa superba*)
Lily-of-the-Valley (*Convallaria majalis*)
Mistletoe (*Phoradendron flavescens*)—berries
Milkbush (*Euphorbia tirucalliil*)*
Monkshood (*Aconitum*)
Naked Lady (*Amaryllis belladonna*)—bulbs
Nightblooming Jasmine (*Cestrum nocturnum*)—berries, leaves
Oleander (*Nerium oleander*)*
Oak (*Quercus* spp.)—acorns
Philodendron
Poison Hemlock (*Conium maculatum*)
Poinsettia (*Euphorbia pulcherrima*)*
Privet (*Ligustrum japonicum*)—berries, leaves
Rhododendrons
Rattlebox (*Daubentonia punicea*)—seeds
Rosary Pea (*Abrus precatorius*)—seeds
Sweet Pea (*Lathyrus odoratus*)—seeds
Skyflower (*Duranta*)—berries
Water Hemlock (*Cicuta douglasii*)
Wisteria—seeds, pods
Yellow Oleander (*Thevetia peruviana*)*
Yew (*Taxus baccata*)—leaves, twigs, seeds

Hallucinogenic plants may also cause severe poisoning and/or death if eaten. These are:

Datura or Jimson Weed (*Datura* spp.)
Marijuana (*Cannabis sativa*)
Mescal Bean (*Sophora secundiflora*)
Opium Poppy (*Papaver somniferum*)
Peyote (*Lophophora williamsii*)

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LILY-OF-THE-NILE

Agapanthus africanus lily-of-the-Nile or blue African lily, (often sold as *A. umbellatus*) blooming from June until August, is one of the most satisfactory perennials. The clumps increase yearly in size and beauty, require little attention, and are evergreen and hardy. Agapanthus makes a fine row along a drive or broad path and is excellent for a corner. As a foreground for the pink belladonna lily it is perfect. The latter blooms after its foliage dies back and the sturdy leaves of the agapanthus hide the nakedness of the pink lily. Agapanthus looks well near a pool; it also makes an excellent tub plant for a large porch or patio.

The Brentwood Fern

Text and photo by *Bill Gunther*

EVERYONE WHO EVER has looked at the romantic illustrations for travel ads knows very well that the plant always depicted growing beside the sea is not a fern, but the coconut palm. In California we cannot grow coconut palms beside the sea or, for that matter, anywhere else except in hothouses.

So what is our alternative? One really possible alternative for us is the Brentwood tree fern; a young specimen, with the sea as background, is shown in the photograph above. Predictably, the reaction from most California gardeners might be that, although admittedly we cannot grow a coconut palm beside the sea, neither can we successfully grow a fern beside the sea. Good basis for this presumption is that ordinary ferns require full or partial shade rather than full sun, and that ordinary ferns require protection from the wind, and especially from the salty sea breezes. But also, very definitely, the Brentwood tree fern is no ordinary fern. The Brentwood tree fern is a special form of the species *Sphaeropteris cooperi*, one of the Australian tree ferns. Rarely in nature, for reasons which are not well understood, an individual comes into being with characteristics not consistent with those of other typical members of its species, these new characteristics being inheritable in its progeny. Any such sudden genetic change is called a mutation. The Brentwood tree fern is a mutant form of *Sphaeropteris cooperi*; its name is derived from the fact that the mutation occurred in the Brentwood area of Los Angeles, California.

In appearance, the Brentwood tree fern is distinguishable from the typical plant of its species in that its fronds are stiffer, more rigid, and slightly more gray in color. But it is in performance rather than in appearance that the Brentwood tree fern is outstanding. Compared with the typical *Sphaeropteris cooperi*, it is much more sun-tolerant, much more wind-tolerant, and much more salt-spray tolerant. Even more remarkable, it is so much more vigorous that it grows about twice as fast. For those who have the patience to take a few years to witness a demonstration of the difference in speed of growth between the two forms, we suggest that you visit San Diego County's Quail Botanical Gardens in Encinitas, California. There, go to the viewing platform of the spectacular Mildred Macpherson Waterfalls. Looking upward from that platform toward the high-point of the waterfalls, all the tree ferns in view are Brentwood tree ferns; one is of medium size and several are of small size. Then look 180 degrees away, in the opposite downward direction, and note the large typical *Sphaeropteris cooperi* growing there. It will be interesting, during future visits to Quail Botanical Gardens, to see how quickly the mutated Brentwood tree ferns, above the viewing platform, will overtake in size the typical form of Australian tree ferns, below. Remember that they all are of the same species!

Maybe when you next visit your favorite nursery you might like to buy a Brentwood tree fern for your own garden. It is possible that your favorite nursery has them in stock, in a selection of sizes for you to choose from. That is possible—but not likely. More likely, the clerk at your favorite nursery will not even know what you are talking about when you ask for a Brentwood tree fern. And quite probably he will not know what you are talking about if you ask for a fern of the species *Sphaeropteris cooperi*. But if then you ask for an Australian tree fern, the clerk probably will show you a plant which is labeled *Alsophila australis*. If so, it is mislabeled. Both *Hortus Third* and the Sunset *New Western Garden Book* agree that all the plants which are sold by California nurseries under the name *Alsophila australis* are really the typical form of *Sphaeropteris cooperi*; they are not the Brentwood mutant, now properly known as *Sphaeropteris* 'Brentwood.' While 'Brentwood' has been grown for a number of years by hobbyists, only recently have commercial nurseries started propagating it.

After having gone through all that, if you still desire a Brentwood fern for your garden, you are invited to send a pre-stamped self-addressed envelope to *California Garden*, Casa del Prado, Balboa Park, San Diego, CA 92101. In response, you will receive directions to two different San Diego County nurseries which have Brentwood ferns in stock for retail sale. □

CULTURE FOR TREE FERNS

In the more inland portions of southern California, plant tree ferns under trees, in a shadehouse, or close to the north side of a building, to provide protection from full sun. However, along the narrow coastal strip, established plants will thrive in full shade or even in full sun.

Plant tree ferns in soil that is loose, well-drained, and rich in organic material. Keep the soil moist, but not soggy.

Since these ferns have a shallow root system, avoid cultivating the area over which the fronds spread, lest you damage the roots. If the roots are uncovered and exposed by erosion during storms, cover them again—before they dry out—with either a mulch or rich soil.

Fertilize lightly, but frequently—preferably with a mild organic-based fertilizer such as blood meal or fish emulsion. Do not apply concentrated doses, or insecticides, and do not fertilize a dry plant.

A tree fern that is well grown and properly cared for is a graceful accent in any garden. M.K.

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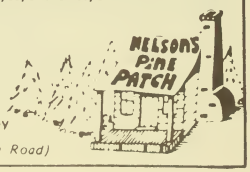

(just east of Hwy 805 & Bonita Road)

COMPANIONATE GARDENS

by *Rosalie Garcia*

Photo by *ROBERT FRANCIS*

Can you find the smooth-leaved mustard, and bronze lettuce? They are there, along with nasturtiums, sweet peas, and freesias on a ledge at the base of the fig tree. To the right, out of the picture, are Chinese edible pod peas.

AS WE BECOME more and more urban we live closer together, so that separate spaces for vegetables, flowers, and fruits are no longer designated the kitchen garden, flower garden, herb garden, and orchard. We are growing all of these together in small plots.

For this reason we are hearing much about companionate planting, about plants that grow well together or do not grow well together. There is much in it, but mostly it is a matter of environment. Find plants that have the same needs and they grow well together. Some like full sun, but less moisture. Some like shaded roots, but full sun for the plant top. This is true of many vines like the chayote and many tropicals like ginger, plumeria, and tuberose.

There are plants such as asparagus that like partial shade, but not all day. How does one know this? Learn to know one's plants. Vegetables, annuals, and shrubs are generally sun plants. Begonias, fuchsias, and ferns are shade plants, but there are varieties of these that tolerate quite a lot of sun. Bedding begonias with red foliage will take more sun than the green-leaved, white-flowered ones. The cane begonia 'Lucerna' and the fern *Microlepia strigosa* will take more sun, and there are others. Chard and lettuce grow better in half shade in summer. Garlic and onions require plenty of moisture and will take part shade.

How much moisture does each plant need? Much depends on the size of the leaves, its root system, its stem structure, and the soil. Our mechanical wonders ruin about as many small gardens as they help. An automatic sprinkler system with a timer is a gadget that saves time and energy, but unless all the plants under the sprinkler require the same amount of water, it can ruin many of them. Dragging the old hose around and giving individual attention is what gets the best results.

What about the bugs? Scattering aromatic herbs like oregano, thyme, rosemary (in a dry spot),

sweet basil (an annual), the parsleys, rue, dill, and any other favorites around in the borders, or in rows where the perennials can stay, will help discourage any pests except snails.

The snail solution is to eat them. If we had an appetite for snails small boys would gladly pick and sell them to the snail processors who would fatten and sell them to, first the gourmets, then to the public, and soon we would have to raise snails and they would no longer be pests. No?? Snails inhabit only good gardens which are lush and succulent.

Companionate gardens are all around us in suburbs, in mobile home parks, and on balconies of condominiums, for the large estate gardens are becoming rare. The 50-foot lot still is usually introduced by a smoothly barbered lawn. Many homeowners are like the somewhat pompous husband of a garden club friend, who did not impress me with his horticultural knowledge when he said; "I am a turf man, myself." Somehow I thought of a race track until I remembered his very fine lawn. Lawns can be a specialty as much as roses, irises, geraniums, bulbs, or vegetables.

A specialty bulb grower in Chula Vista, California, has hundreds of specimens in her small plot in a climate not usually thought of as suitable for narcissi, jonquils, and hyacinths. Even though she has some kind of bulb in bloom at least six months of the year, she feels the compulsion to integrate by planting tree roses between the raised beds, camellias on the north side of the house, and a big vegetable bed along one tier of bulb beds. At the back of the lot are rare fruit trees such as a quince, and a plum, a peach, and an apple.

Her mother, not far away and with an equally small space, produces fruit and vegetables in quantities that would supply a family, as well as roses, geraniums, and assorted other favorites. Around the edge of her plot are the fruit trees and in between the geraniums are raised beds for vegetables. Everywhere there are plots with plants grown from the cuttings she brings home from her garden club meetings.

This eighty-year-old lady's lathhouse serves two purposes: it is a protected place for bromeliads, begonias, and other shade plants, and it provides walls for grape, chayote, perennial bean, and squash vines. Gradually her front lawn is growing smaller as beds for iris and perennials encroach.

One mobile home dweller who has only 14-inch spaces on two sides and about 4 feet in front, produces an amazing amount of rare types of plants. Her south facing carport is filling up with her latest enthusiasm, epiphyllums in hanging baskets and cacti in pots on shelves. In the strip below are hostas, with fragrant flowers, delphiniums (one corner gets morning sun), and several of the fragrant jasmines on trellises. In the 4-foot space along the front are kiwi, chayote, and passion vines on espalier frames against the walls, with bulbs and gladioli at their feet. Big half-barrels of all kinds hold subtropical fruits—sapote, avocado, kumquat, and Rangpur and Mexican limes. I am watching the sapote and avocado trees. She hopes to contain them in the tubs, by pruning, but I wonder if they will produce fruit. My experience with both of these trees was that they grew very large before fruiting.

One of the thrills of gardening is experimentation. Plants we always thought required winter chilling are now frequently seen growing successfully in our subtropical climate. We also are finding that one does not need large areas to grow one's vegetables and fruit as well as his favorite flowers.

Let us continue companionate gardening and share our exciting adventures with neighbors, friends, and garden club members. One of the rewards of gardening is sharing. ◻

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The Violet

by *Skipper Cope*

A GREEK MYTH relates that Zeus fell in love with the nymph Io, daughter of the river-god Inachus. To protect Io from Hera's jealousy Zeus turned her into a white heifer. When she wept over the coarse common grass she was forced to eat, he created a fragrant dainty plant suitable to her delicate palate—the violet, *Viola odorata*.

The violet is one of the few flowers to have been used as a political symbol. Because the capitulation of Paris, preceding the abdication of Napoleon I, occurred on March 30th, 1814, the French Bonapartists chose the violet, the flower of March, as their symbol. During Napoleon's exile at Elba they nicknamed him "Caporal Violet, the little flower that returns with spring," and soon France was flooded with picture post cards of an innocent-looking bunch of violets. Careful scrutiny of these revealed the outlines of portraits of Napoleon, Maria Louisa and their three-year-old son Charles, King of Rome. The French government intermittantly, up until 1874, decreed that no reproductions depicting a violet, the Bonapartist symbol, could be made or sold in France.

Violet Drawing—France, 1579

Medicinally, seeds of the sweet violet were used as a purgative, and a gently laxative syrup was prepared by making an infusion of the fresh petals. In the early twentieth century it was claimed that this infusion could also cure cancer. Poultices made of the leaves and flowers were recommended for feverish swellings.

Violets—picture postcard, France, 1815

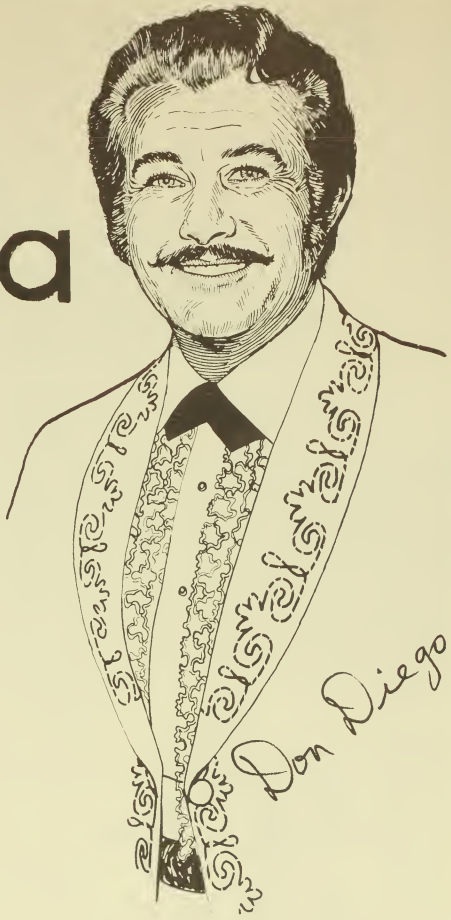
Violets were used for tussie mussies—the small bouquets so popular in the 18th and 19th centuries. Prior to the 1930's corsages of violets, often combined with sweetheart roses, were greatly favored. Many times, instead of a formal corsage, a bunch of violets was worn pinned on the shoulder or on the coat collar.

Violets have always been used in perfumes and colognes and these are still available and widely used.

In the late 1800's and early 1900's glazed or "candied" violets were considered a delightful delicacy when served for afternoon tea or as an after-dinner candy. The glazed violets are no longer available in candy shops but one can still purchase violet-flavored candies. Violet flowers also add beauty as well as appealing flavor to open face tea sandwiches.

The aura of mystical heritage makes the violet an even more delightful flower whether one is enjoying its fragrance or its delicate flavor in a dainty tidbit. □

southern California Expo



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DEL MAR

JUNE 19 — JULY 5

ROBERT LAMP

by *Allethe Macdonald*

Expo's Flower Show Superintendent Extraordinaire

THIS WILL BE Robert Lamp's 23rd season as manager of the horticultural and flower show at the Southern California Exposition in Del Mar, California. This exposition has become well known for its outstanding horticultural and floral exhibits, with people coming from far and near to enjoy the beauty.

Bob, as he is known to everyone, first attracted the attention of the fair's directors with the floral and landscape exhibits he entered in the exposition competition in 1957. In those days, of course, the exposition was just plain old San Diego County Fair. In 1958 he was asked to supervise the flower and garden show at the fair. He has been doing it ever since.

Just about as soon as he could walk Bob was helping his father grow cut flowers and vegetables on Mr. Lamp's 3000 acre farm near El Cajon, California. Bob should have known he was destined to be near what he loves most—flowers and plants, but he dreamed of being a foreign correspondent, with the traditional turned-up collared trenchcoat. After high school and a few years of college—San Diego State University and University of Southern California—it was back to growing things for Bob. "The foreign correspondent idea was just a dream," he recalls. It is fortunate for flower lovers that it was only a dream.

In the next few years Bob's work at the fair attracted the attention of other fair directors. Soon he was supervising the landscaping for the annual Date Festival at Indio, California; the Mid-Winter Fair in Imperial County; and the World of Plants Show at San Francisco's Cow Palace. For the last 13 years he has supervised flower and garden shows at the Los Angeles County Fair and for 7 years the same programs at the state fairs of Oklahoma and Arizona.

"It's the greatest career there is," says Bob. "You get to use your own imagination and work with all sorts of people. Working with good folks is what makes it all worthwhile." □

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FLOWER SHOWS

(CONTINUED FROM PAGE 66)

JUNE 6, 7

SAN DIEGO EXOTIC PLANT SOCIETY 3RD ANNUAL SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat & Sun: 11:00 a.m. to 5:00 p.m. Free

JUNE 14

SOUTHWEST HEMEROCALLIS SOCIETY 5TH ANNUAL SHOW
Casa del Prado, Patio 'A', Balboa Park, San Diego
Sun: 12:00 to 5:00 p.m. Free

JUNE 20, 21

SAN DIEGO FUCHSIA & SHADE PLANT SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: 12:00 to 5:00 p.m. Sun: 10:00 a.m. to 5:00 p.m. Free

JUNE 27, 28

SAN MIGUEL BRANCH AMERICAN BEGONIA SOCIETY SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sat: 1:00 to 5:00 p.m. Sun: 10:00 a.m. to 5:00 p.m. Free

JULY 5

SAN DIEGO DAHLIA SOCIETY SPECIMEN SHOW
Casa del Prado, Majorca Room, Balboa Park, San Diego
Sun: 1:00 to 5:00 p.m. Free

Having Problems with Poor Drainage?

by *P. J. Miller*

THE HOMESITE IN most new home developments is the product of the bulldozer blade. Row after row of lots are leveled and scraped until they all look alike, with nothing left but hardpan as subsoil. When a hole is dug in hardpan a sump hole results in a near total lack of drainage, creating a wet and soggy condition unfavorable for good root growth. In the absence of good drainage the new soil in the sump hole remains wet for long periods, becomes packed, and perhaps sour. A friable soil is essential for proper aeration and allows the entry of oxygen into the root zone. The best treatment for such a problem lot would be to bring in tons and tons of topsoil mix and resurface the entire garden area—a very costly procedure. One alternate solution is called "Dome Planting." In place of chiseling out a planting hole for a tree or shrub, build a "hill" for it.

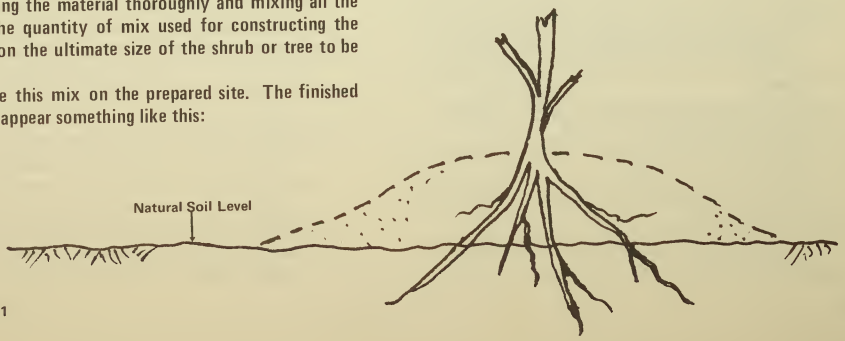
PROCEDURE FOR DOME PLANTING

1. Several days before preparation of the dome, irrigate selected area with an overhead sprinkler.

2. Over-turn the soil, spade-deep, leaving it rough and unraked. Broadcast gypsum or soil sulphur over the up-turned soil and irrigate; perhaps a more effective treatment is to add a sponge rock-like material impregnated with soil penetrant. Also available is a liquid soil penetrant.

3. Prepare a friable soil mix consisting of treated wood chips, prepared planting mulch, decomposed granite, and salt-free sand. A generous portion of peat moss may be added to the mixture. Peat has the capability of holding nitrogen and making it readily available for plant roots. Use a flat, square shovel for turning the material thoroughly and mixing all the ingredients. The quantity of mix used for constructing the dome depends on the ultimate size of the shrub or tree to be planted.

4. Pile this mix on the prepared site. The finished product should appear something like this:



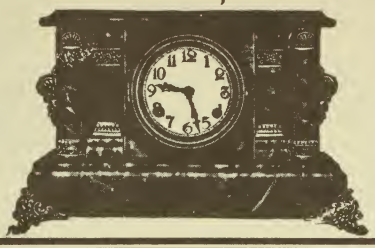
To irrigate dome plantings, sprinklers with 1/2-, 1/3- or 1/4-circle heads may be used, though a drip system might be more practical. Keep the entire dome area well mulched to prevent drying out and to keep plant roots cool during summer months.

Dome planting is not only one solution for poor drainage, but it enhances the esthetic appeal of a small garden. □

Mr. Miller, an excellent horticulturist, was Head Ranger at Quail Botanical Gardens, Encinitas, California, until his recent retirement.

A cultural calendar of care from our affiliates–
Compiled by PENNY BUNKER

Now is the Time



BEGONIAS MARGARET LEE

Now is the time–

- to keep plants in active growth by feeding well-balanced ¼ strength fertilizer once a week.
- to keep growing area clean–keep all dead leaves and old blooms picked up.
- to prune plants for shaping and to encourage side-growth; do this gradually–about 1/3rd of the plant at a time to avoid shock.
- to repot if needed–use a light porous mixture.
- to protect from too much sun and drying winds.
- to water as needed–keep moist but NOT wet.
- to watch tuberous begonias for signs of mildew, correct with dust or spray. Stake any tall stems of tuberous variety.
- to spray for insects; using malathion base spray.

BONSAI DR. HERBERT MARKOWITZ

Now is the time–

- to complete the potting of all trees that have not been repotted–except for flowering trees, such as azaleas, that should not be repotted until blooming cycle is completed. Some deciduous trees which have been in full leaf can be defoliated in late June and thereafter repotted.
- to prune all your trees to promote proper growth and shape. To avoid brown ends from tip pruning of junipers and pines, use finger tips instead of cutting tools.
- to develop a watering schedule–avoid overwatering, especially the pines.
- to spray for insects as needed–using either a systemic or mild surface insecticide.
- to control mildew that might appear–use sulphur dust or a liquid spray.
- to fertilize trees with an organic fertilizer. Do not overfeed the pines.

BROMELIADS (Pineapple Family) JON BLACKMER

Now is the time–

- to check on slug and snail pellets put out in April and distribute more bait. Be sure to place bait around the plants, not in the cups. Discard empty snail shells.
- to feed a bit more heavily and/or frequently, as the growing season is upon us. Use a balanced fertilizer.
- to check plants so they are not left in too much summer sun if they were moved into sunnier areas for the winter.
- to remove pups that have reached at least 1/3 their full size. Add a level teaspoon of rock phosphorus per 6-inch pot when potting. It will stimulate their root growth.
- to keep cups clean and filled with clean water.
- to maintain humidity around plant areas.

CACTI & SUCCULENTS RICK LATIMER

Now is the time–

- to begin watering euphorbias (some are winter growing).
- to fertilize at ¼ strength once a week (in a regular watering schedule if using liquid) rather than fertilizing once a month at full recommended dosage.
- to be careful not to wash off the chalky covering of some succulents or wash away the "wool" on some cacti while watering.
- to make sure plants get enough sun and/or enough shade. Some succulents will elongate unnaturally if given too much shade, especially if they demand full sun, while full sun will burn other succulents and particularly the jungle cacti or the South American steppe cacti.
- to take immediate remedial action if scale, mealybug, red spider, aphids, or nematodes are found on your plants.

CAMELLIAS SAN DIEGO CAMELLIA SOCIETY

Now is the time—

- to start a feeding program; use an acid type fertilizer; cottonseed meal, special camellia mixes, or liquid fish.
- to transplant plants that have started new growth.
- to repot plants that have outgrown their containers.
- to water well the day before feeding—NEVER fertilize a dry plant.
- to maintain a regular watering schedule. Do not allow plants to completely dry out.
- to mulch plants with redwood compost.
- to watch for pests; leaf beetles—spray or dust to discourage; looper worms—spray with malathion if found; watch for aphids on tender new growth and spray.

DAHLIAS ABE JANZEN

Now is the time—

- to draw soil around the plants as they grow.
- to feed with a low-nitrogen fertilizer (4-10-10) either dry or liquid.
- to plant smaller varieties and give regular care for growing.
- to spray regularly for leaf miner, aphids, and thrips.
- to pinch out centers of plants when two or three sets of leaves have developed.
- to soak deeply when watering; let dry before watering again.

EPIPHYLLUMS (Orchid Cactus) FRANK GRANATOWSKI

Now is the time—

- to enjoy fruits of your labor. Properly cared for plants should produce an abundance of spectacular blooms.
- to cross-pollinate as soon as blooms open. However, pollinate with definite goals in mind. Bees and insects may be helpful, but they are not selective.
- to remove spent and wilted blooms by cutting about ½ inch from the base of the flower, using a sharp knife or pruning shears. This method is also advisable when cutting flowers for display.
- to continue good grooming of mature plants, by pruning older branches that are no longer productive, i.e.; branches on which many areoles are calloused and scarred from previous blooms. These cuttings can be used to start new plants.
- to protect foliage from the hot summer sun. Keep plants in filtered sunlight.
- to water regularly. Keep moist, but NOT wet. Do not allow soil to dry.
- to repot last years cuttings that have outgrown their containers.
- to attend local shows. Meet with epiphyllum growers and add cuttings to your collection based on blooms seen in displays.

FERNS RAY SODOMKA

Now is the time—

- to plant spore.
- to spray for aphids and scale, if necessary.
- to fertilize twice a month with high-nitrogen fertilizer, using liquid or pellets.
- to remove dead fronds.
- to water thoroughly—maintain high humidity by wetting surrounding areas.

FUCHSIAS BILL SELBY

Now is the time—

- to change your fertilizer to 5-10-10 for lush growth and an abundance of large blooms.
- to watch for dry plants on hot or windy days. Do NOT allow plants to dry out; keep damp, but NOT wet.
- to be sure to water an hour or more prior to application of an insecticide.
- to be alert for insects; aphids, whitefly, or worms; use malathion or other non-oily spray.
- to control snails—use metaldehyde or other bait according to directions.
- to keep plants clean of debris and spent blooms.
- to continue pinching for shape and picking off all berries and dropped leaves.
- to turn baskets regularly so they do not become one-sided.

GERANIUMS CAROL ROLLER

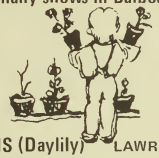
Now is the time—

- to water thoroughly when plants become somewhat dry. Keep foliage as dry as possible.
- to continue feeding a balanced fertilizer dissolved in water; using half the recommended strength twice as often as directed on the label, or at half strength as often as needed in order to keep plants growing well.
- to continue pest control program for the sucking and chewing insects, snails, and slugs; using all products according to the manufacturers' directions.
- to groom plants by removing old discolored leaves and faded flowers.
- to avoid taking cuttings from regal pelargoniums. Cuttings may be taken from zonals and ivy-leaved types, if desired.
- to protect tender plants from the sun if temperatures are high.
- to continue to rotate plants on a regular basis in order to produce well-shaped plants.
- to enjoy your geraniums at the height of their season.

GESNERIADS (African Violets, Goldfish, and Candy Corn plants are but a few) MIKE LUDWIG

Now is the time—

- to be on guard for mealybug, scale, aphids and ants. Treat with non-oil base spray to prevent damage on foliage.
- to keep feeding. It is important to maintain a constant feeding schedule to have a good plant later in the year.
- to watch the movement of the sun. Make sure no plant is getting more than it desires or burning of the leaves will occur.
- to watch watering on cloudy or hazy days. Make sure plants are not allowed to stay too wet or allowed to dry out.
- to guard against temperature changes especially inland; mist foliage in the mornings and evenings on HOT days; but never water in the mornings on HOT days.
- to keep spent blooms picked off and pinch to keep full plants.
- to enjoy the many shows in Balboa Park (San Diego).



HERMEROCALLIS (Daylily) LAWRENCE SMITH and SANFORD ROBERTS

Now is the time—

- to water well about once a week to produce quality flowers.
- to combat aphids with a systemic spray.
- to fertilize established clumps with a 5-10-10 formula.
- to enjoy peak bloom in June.
- to spray for thrips (cygon) and red spider mites (plictran) if necessary. Do not use orthene or kelthane as they are injurious to daylilies.
- to visit a daylily show and view named flowers from the display for new cultivars.

IRIS SAN DIEGO-IMPERIAL COUNTIES IRIS SOCIETY

Now is the time—

- to prepare beds for planting and transplanting. Work in humus, soil sulphur, and some decomposed manure.
- to transplant tall-bearded after blooming.
- to allow cut surfaces of tall-bearded rhizome to dry and be exposed to the sunlight before replanting, or give a light dusting of soil sulphur. May place in vitamin-B solution for awhile before planting.
- to keep watering while still blooming.
- to feed spurias with a low-nitrogen fertilizer.
- to feed Siberians after bloom with a balanced fertilizer to form bloom for next year.
- to feed Louisianas with a balanced food, but wait until June to dig and transplant.
- to feed Japanese iris with camellia food; add to water in which they are growing.
- to watch for aphids; may use a systemic insecticide.

ORCHIDS CHARLIE FOUQUETTE

Now is the time—

- to mist seedlings in morning and early afternoon so they will be dry by nightfall.
- to mist variegata oncidiums in morning so they will be dry by nightfall.
- to keep bud blast at minimum be careful NOT to have sudden temperature changes in hot houses.
- to check and prepare to paint glass or erect shade cloth in areas of patio or hothouses with too much light.
- to keep exterior planting media moist.
- to start high nitrogen feeding of cymbidiums and a complete fertilizer on cattleyas and phals.
- to start high nitrogen fertilizer on nobile dendrobiums when and while new growth is growing.
- to maintain pest control against red spider, mealybug, and scale. Use two weeks apart to get egg-hatch.
- to control snail and slugs by using metaldehyde granules.
- to repot cattleyas showing new growth.
- to transplant "kikis" of phals when roots are ½ to 1 inch long.
- to spray and mist on hot dry days.

ROSES BRIAN DONN

Now is the time—

- to produce blooms during the summer, remove old blooms as they drop petals or turn into faded blobs.
- to continue watering and spraying as needed.
- to thoroughly wash foliage and canes with a garden hose; allow to dry and next day spray thoroughly with kelthane for any spider mites. Be sure to do a thorough job of wetting every leaf and stem with the spray.
- to feed established plants with a complete rose food with trace elements (iron, zinc, manganese) or apply these separately.
- to feed newly planted bushes with weekly feedings of diluted liquid plant food.
- to mulch bushes to keep cool and save water.

VEGETABLES GEORGE JAMES

- to plant seeds of beets, carrots, turnips, radishes, snap beans (both bush and climbing), summer squash, corn, and cucumber. If plants of cucumber and summer squash are used, they will bear sooner than plants grown from seed.
- to wait until later, when weather is warmer, to plant cantaloupe, lima beans, winter squash, and watermelons.
- to plant leaf vegetables, such as lettuce, endive, and spinach in partially shaded locations during the hot months.
- to fertilize vegetables in good soil (except corn, lettuce, and tomato) every three to four weeks and those in poor soil or where there is competition from roots of other plants more frequently.
- to fertilize corn when it is 8 inches tall and again when it

has grown to 18 inches.
to fertilize lettuce once when it is half grown.
to fertilize tomatoes once a month after fruit has formed, and not before.
to use a fertilizer blended for use on vegetables and to follow the label directions for the amount to use and the manner of application.
to water in furrows by flooding or by drip irrigation instead of overhead sprinkling which can increase the possibility of diseases.

THE NEW YORK BOTANICAL GARDEN ILLUSTRATED ENCYCLOPEDIA OF HORTICULTURE by Thomas H. Everett, Volume 3, Cha to Di, Garland Publishing Co., New York, 1981, 353 pages

This ambitious project embracing the whole field of gardens and garden plants continues to astonish with its quality and versatility of content. Volume 3 has major articles on *Chamaecyparis* (false cypress) and the true cypresses, chrysanthemums, *Cornus* (dogwood), *Cotoneaster, Crassula* (jade plant), crocus, dahlia, delphinium, and dianthus, as well as colonial gardens, cuttings, December in the garden, and desert gardens. The total range is from *Chamaecereus*, the peanut cactus, to *Dicentra*, the bleeding heart.

Beyond these topics the encyclopedia ranges into container gardening, compost, city gardening, Christmas trees, chlorine in water, chipmunks, chard, Chinese cabbage, and crabgrass, to mention only a few of these practical matters. There is even a fascinating essay about the coconut palm, worth separate publication, and instruction in the pronunciation of such tricky names as clematis (accent on the first syllable) and cotoneaster (four syllables).

As the first two volumes have taught us to expect, the color plates are plentiful and spectacular, although perhaps not as splashy as in the preceding ones. The alphabet does put some limitations on such things.

Let us hope that we can look forward to further intimate visits from the next volumes in the series, scheduled for several a year. □

Reviewed by *RUSSELL MacFALL*

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